User Manual

action series

Antes de utilizar el equipo, lea la sección "Precauciones de seguridad" de este manual. Conserve este manual para futuras consultas.

Before operating the device, please read the "Safety precautions" section of this manual. Retain this manual for future reference.

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Precauciones de Seguridad
Safety Precautions

Conserve y lea todas estas instrucciones.
Siga todas las advertencias.
El signo de exclamación dentro de un triángulo indica la existencia de componentes internos cuyo reemplazo puede afectar a la seguridad.

Keep these instructions.
Heed all warnings. Follow all instructions.
The exclamation point inside an equilateral triangle indicates the existence of internal components whose substitution may affect safety.

El doble cuadrado indica equipo de Clase II.

The double square indicates Class II device.

Las especificaciones se encuentran en la etiqueta de la parte posterior del producto.

The specifications can be found on the rear label of the product.

El colgado del equipo sólo debe realizarse utilizando los herrajes de colgado recomendados y por personal cualificado. No cuelgue la caja de las asas.

The appliance should be flown only from the rigging points and by qualified personnel. Do not suspend the box from the handles.

No exponga este equipo a la lluvia o humedad. No exponga el equipo a salpicaduras ni coloque sobre él objetos que contengan líquidos, tales como vasos y botellas. Equipo IP-20.

Do not expose this device to rain or moisture. Do not place any objects containing liquids, such as bottles or glasses, on the top of the unit. Do not splash liquids on the unit. IP-20 equipment.

Este símbolo indica que el presente producto no puede ser tratado como residuo doméstico normal, sino que debe entregarse en el correspondiente punto de recogida de equipos eléctricos y electrónicos.

This symbol on the product indicates that this product should not be treated as household waste. Instead it shall be handed over to the appicable collection point for the recycling of electrical and electronic equipment.

Equipo diseñado para funcionar entre 15ºC y 35ºC con una humedad relativa máxima del 75%.

Working temperature ranges from 15ºC to 35ºC with a relative humidity of 75%.

El cableado exterior conectado al equipo requiere de su instalación por una persona instruida o el uso de cables flexibles ya preparados.

The outer wiring connected to the device requires installation by an instructed person or the use of a flexible cable already prepared.

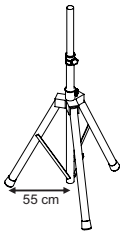
El equipo cuenta con dos conectores de entrada en paralelo para facilitar la conexión de varias cajas en paralelo.

Note that the two Speakon input connectors are wired in parallel to provide easy parallel connection of several enclosures.

No emplace altavoces en proximidad a equipos sensibles a campos magnéticos, tales como monitores de televisión o material magnético de almacenamiento de datos.

Do not place loudspeakers in proximity to devices sensitive to magnetic fields such as television monitors or data storage magnetic material.

Para las cajas con vaso para trípode, la altura máxima de seguridad desde el suelo a la base de la caja montada sobre trípode modelo ***TRD-2***, con pies a 55 cm del eje del trípode, es:



For enclosures with tripod socket, the maximum safety height from floor to bottom of enclosure when mounting on a ***TRD-2*** tripod, with legs spread 55cm from the central pole, is:

action-8- ---------->125 cm
action-12 ---------->115 cm
action-15 ---------->105 cm

action-8- ---------->125 cm
action-12 ---------->115 cm
action-15 ---------->105 cm

No existen partes ajustables por el usuario en el interior de este equipo. Cualquier operación de mantenimiento o reparación debe ser realizada por personal cualificado. Es necesario el servicio técnico cuando el aparato se haya dañado de alguna forma, tal como que haya caído líquido o algún objeto en el interior del aparato, haya sido expuesto a lluvia o humedad, no funcione correctamente o haya recibido un golpe.

No user serviceable parts inside. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.

Limpie con un paño seco. No use limpiadores con disolventes.

Clean only with a dry cloth. Do not use any solvent based cleaners.

GARANTÍA

Todos nuestros productos están garantizados por un periodo de 24 meses desde la fecha de compra.

Las garantías sólo serán válidas si son por un defecto de fabricación y en ningún caso por un uso incorrecto del producto.

Las reparaciones en garantía pueden ser realizadas, exclusivamente, por el fabricante o el servicio de asistencia técnica autorizado.

Otros cargos como portes y seguros, son a cargo del comprador en todos los casos.

Para solicitar reparación en garantía es imprescindible que el producto no haya sido previamente manipulado e incluir una fotocopia de la factura de compra.

WARRANTY

All D.A.S. products are warrantied against any manufacturing defect for a period of 2 years from date of purchase.

The warranty excludes damage from incorrect use of the product.

All warranty repairs must be exclusively undertaken by the factory or any of its authorised service centers.

To claim a warranty repair, do not open or intend to repair the product.

Return the damaged unit, at shippers risk and freight prepaid, to the nearest service center with a copy of the purchase invoice.

DECLARACIÓN DE CONFORMIDAD
DECLARATION OF CONFORMITY

D.A.S. Audio, S.A.
C/ Islas Baleares, 24 - 46988 - Pol. Fuente del Jarro - Valencia. España (Spain).

Declara que la ***serie action***:
Declares that ***action series***:

Cumple con los objetivos esenciales de las Directivas:
Abide by essential objectives relating Directives:

- Directiva de Baja Tensión (Low Voltage Directive) 2006/95/CE
- Directiva de Compatibilidad Electromagnética (EMC) 2004/108/CE
- Directiva RoHS 2002/95/CE
- Directiva RAEE (WEEE) 2002/96/CE

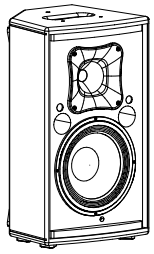
Y es conforme a las siguientes Normas Armonizadas Europeas:
In accordance with Harmonized European Norms:

- EN 60065:2002 Audio, video and similar electronic apparatus. Safety requirements.
- EN 55103-1:1996 Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 1:Emission.
- EN 55103-2:1996 Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2:Immunity.

INTRODUCTION

The ***action series*** inherits the exceptional sound quality and rugged build that have made D.A.S. professional systems an internacional sound reinforcement standard. Designed from "real-world" experience, they offer users outstanding performance, absolute reliability, and unparalleled convenience. Whether it is in a high-profile venue or on the stage of a major event, the ***action series*** will provide the power and definition needed to make your performance a success.

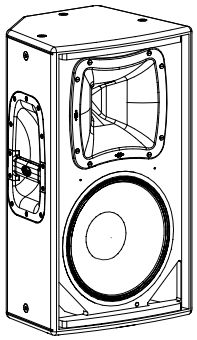
Features



action 8

- 2-way, full-range system
- 8" bass loudspeaker
- Compression driver
- Asymmetric enclosure design for stage monitor use
- Built-in rigging points
- Stand mountable

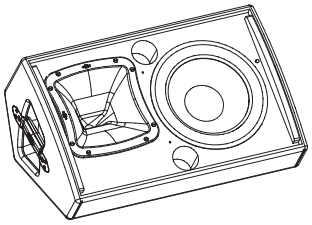
The ***action 8*** is a compact 2-way passive full-range loudspeaker that utilizes a 8" low frequency transducer and a full compression driver. The multi-angle cabinet is constructed of Birch plywood protected by an enviormentally friendly ISO-flex black paint finish. A rear located handle and a robust steel grille are provided. A 35 mm tripod socket allows for stand mounting.



action 12

- Two-way full-range system
- 12" bass loudspeaker
- Compression driver with titanium diaphragm
- Asymmetric enclosure design for stage monitor use
- Built-in rigging points (eyebolt based)
- Stand mountable

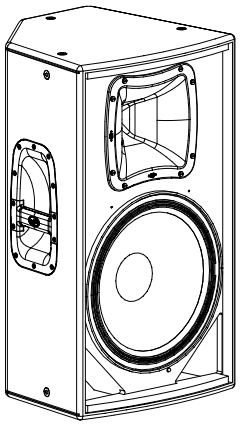
The ***action 12*** is a 2-way passive full-range loudspeaker that utilizes a 12" low frequency transducer and a 1" exit compression driver. The multi-angle cabinet is constructed of Birch plywood protected by an environmentally friendly black paint finish. Two bar handles and a steel grille are provided. A 35mm tripod socket allows for stand mounting.



action M12

- Dedicated stage monitor
- 12" bass loudspeaker
- Compression driver with titanium diaphragm
- Low profile enclosure design for minimum visual impact
- Black paint finish
- Stand mountable

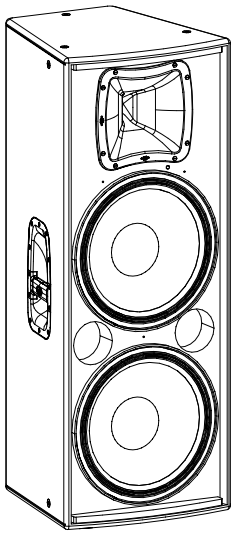
The ***action M12*** is a dedicated stage monitor designed for use with external amplification. The enclosure is constructed from Birch plywood and is protected with a black paint finish. Two side located handles facilitate handling and a steel grille protects the components. A pole mount socket adds versatility to the ***action M12***.



action 15

- Two-way, full-range system
- 15" bass loudspeaker
- Compression driver with titanium diaphragm
- Asymmetric enclosure design for stage monitor use
- Built-in rigging points (eyebolt based)
- Stand mountable

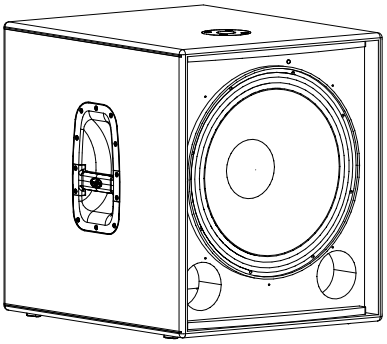
This 2-way passive full-range loudspeaker utilizes a 15” low frequency transducer and a 1” exit compression driver with titanium diaphragm. The cabinet is constructed of Birch plywood and finished with an environmentally friendly black paint finish. Two bar handles are provided and a steel grille protects components. A 35 mm tripod socket allows for stand mounting. Rigging points provide a safe and simple solution for suspending the ***action 15***.



action 215

- 2-way, full-range system
- 2 x 15" bass loudspeaker
- Compression driver with titanium diaphragm
- Two steel-reinforced handles

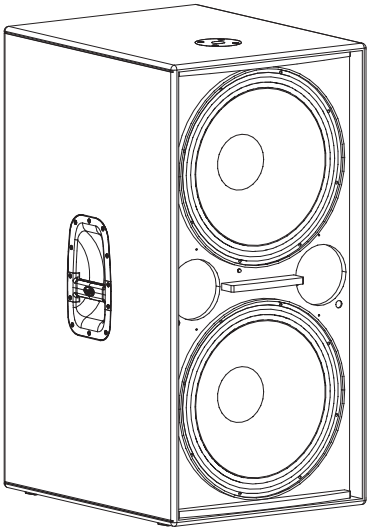
The ***action 215*** is a 2-way passive full range loudspeaker utilizes two 15” bass loudspeakers for extra low frequency punch and higher SPL. High frequencies are handled by a 1” compression driver with titanium diaphragm. The trapezoidal cabinet is constructed using Birch plywood and protected with a hard-wearing black paint finish. Two bar handles and a steel grille sealed against corrosion using a polyamide powder coat finish are provided. Rigging points provide a safe and simple way to fly the ***action 215*** cabinets.



action 18

- Bass-reflex subwoofer system
- 18" low frequency transducer
- Precise and powerful bass reproduction
- Top located pole mount socket

The ***action 18*** bass system incorporates a 18” low frequency transducer with a 4 " voice coil mounted as a direct radiator into a bass-reflex cabinet. The loudspeaker is protected by a perforated steel grille, sealed against corrosion using a powder coat finish. The ***action 18*** is designed for use in biamped systems. A top located pole-mount socket permits mounting full-range systems above the ***action 18*** and two bar handles makes moving easy.

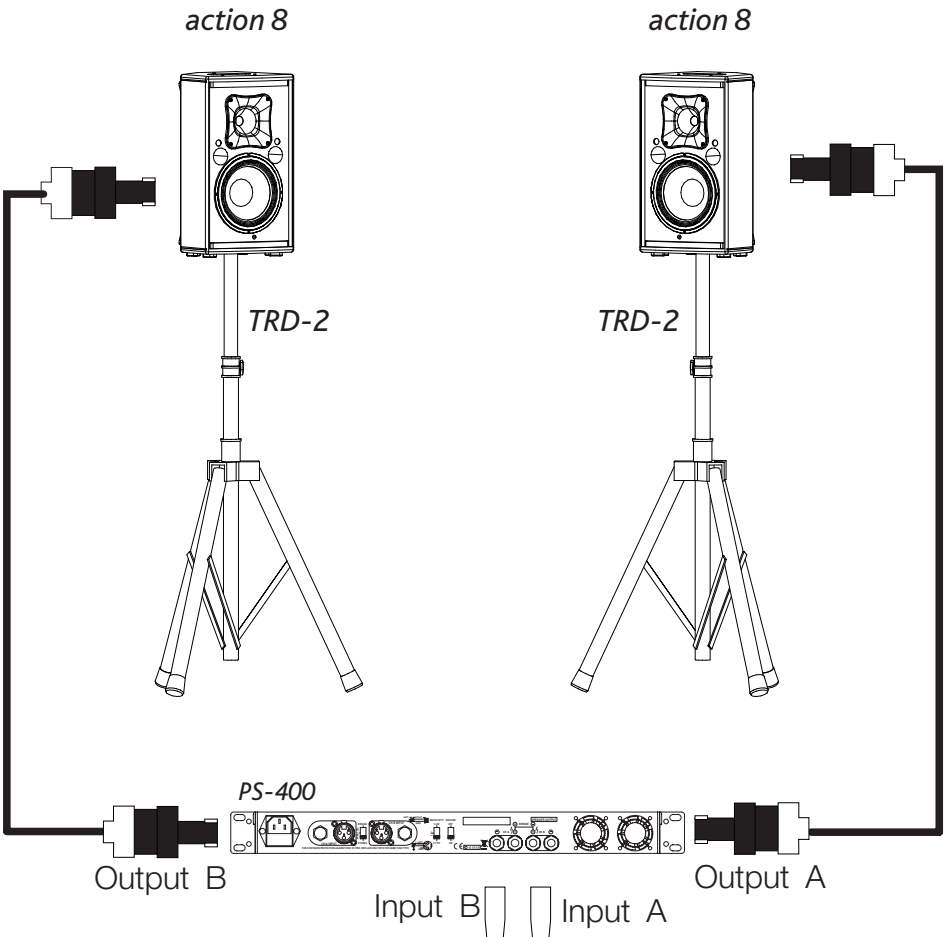


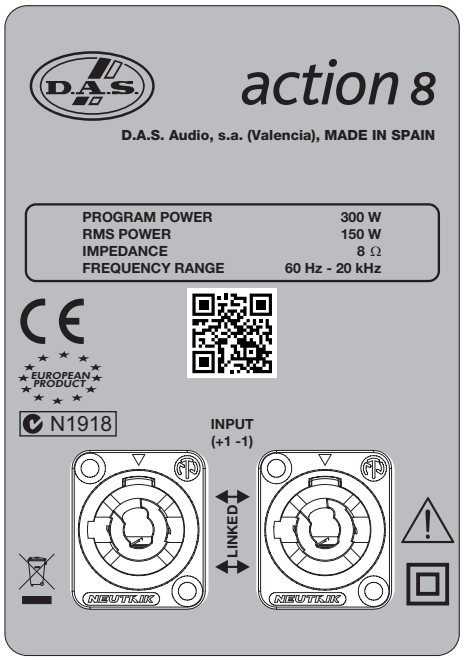
action 218

- High output bass-reflex subwoofer system
- Twin 18" loudspeakers
- Durable black paint finish
- Side located bar handles

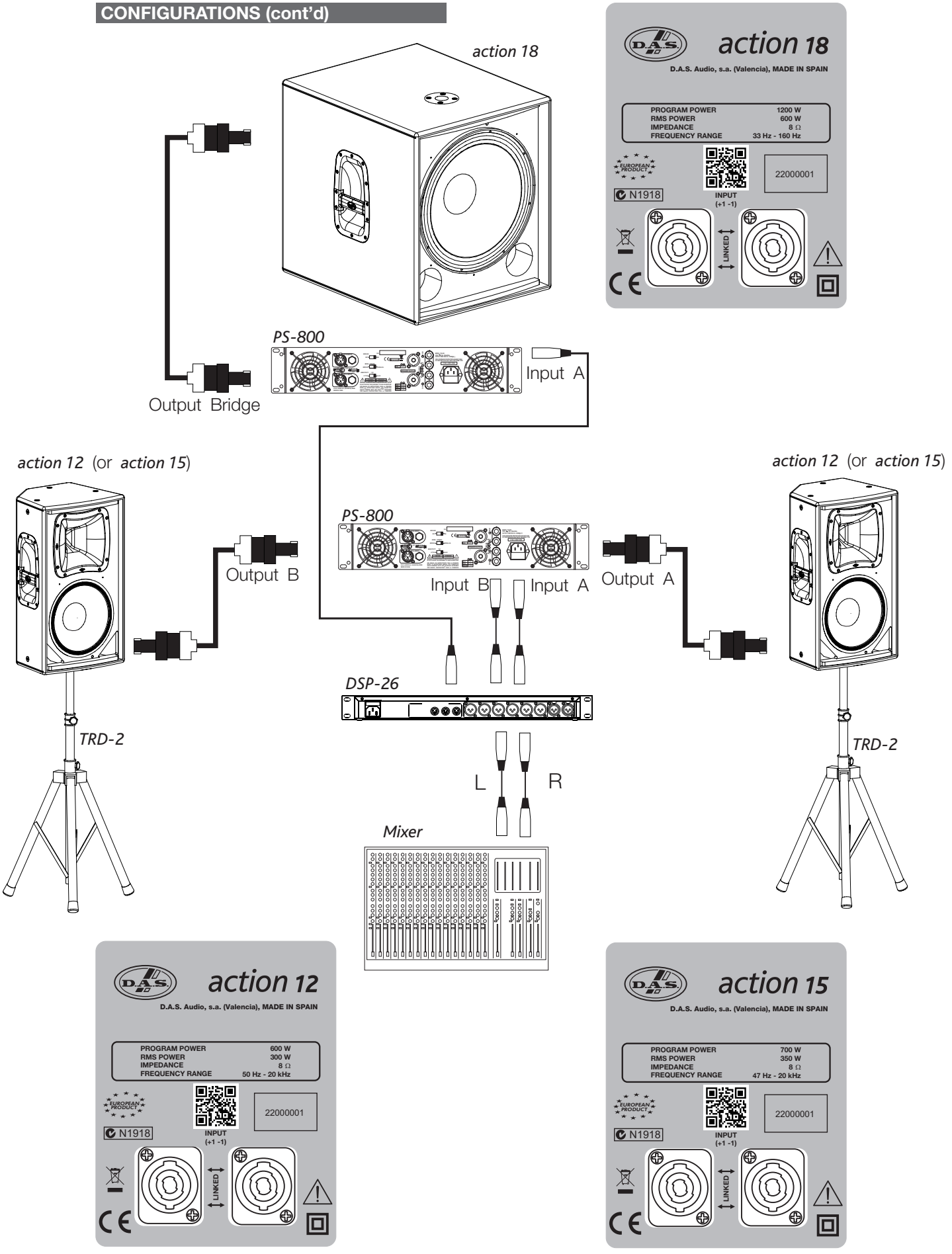
This high power bass-reflex subwoofer system uses dual 18" bass loudspeakers equipped with 4" voice coils. The exceptional power handling capacity and efficiency provide high sound pressure levels of powerful bass. Two hand locations facilitate handling. The cabinet is designed to be stacked in the vertical position in order to reduce the units "on-stage" footprint.

CONFIGURATIONS

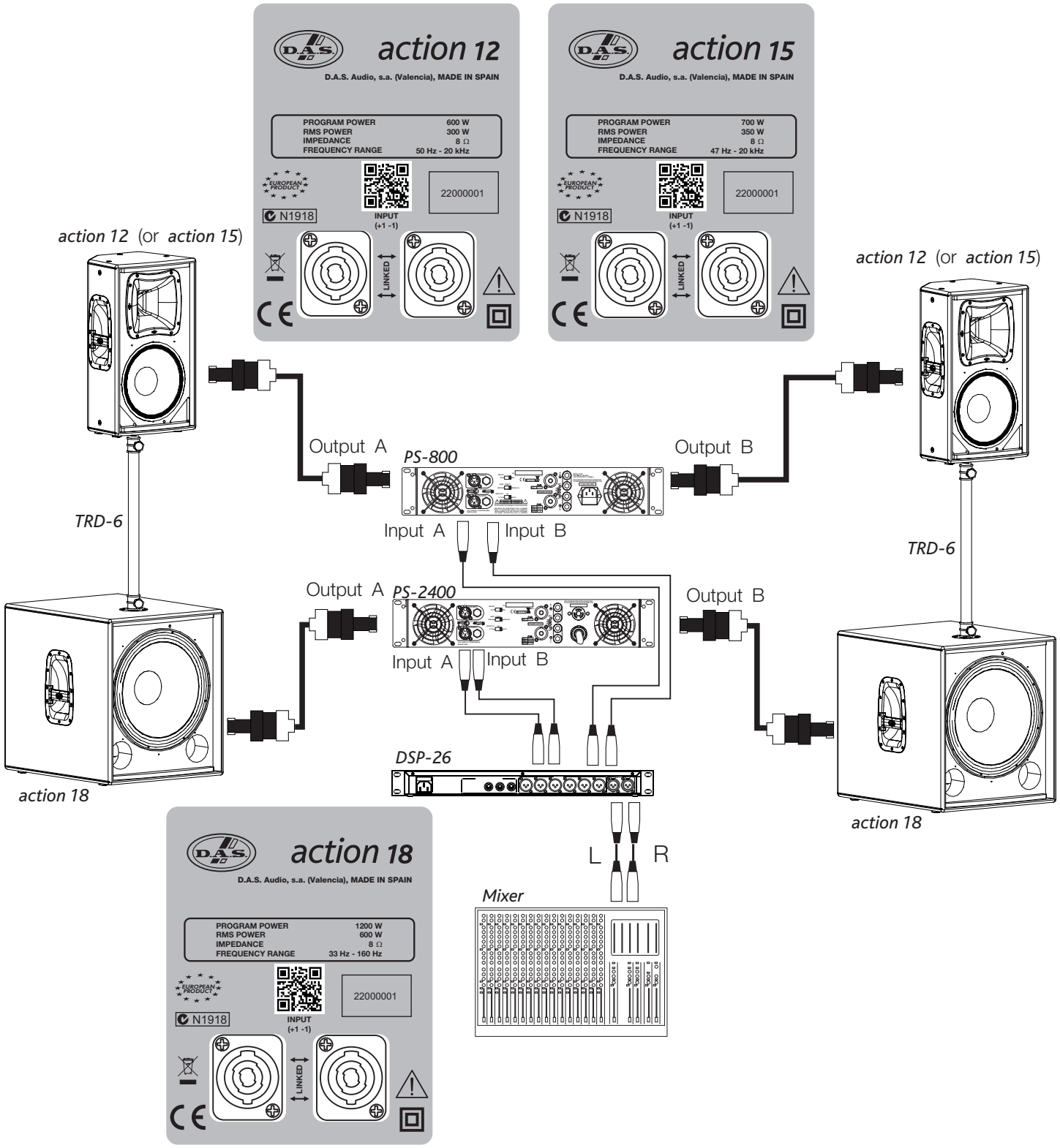




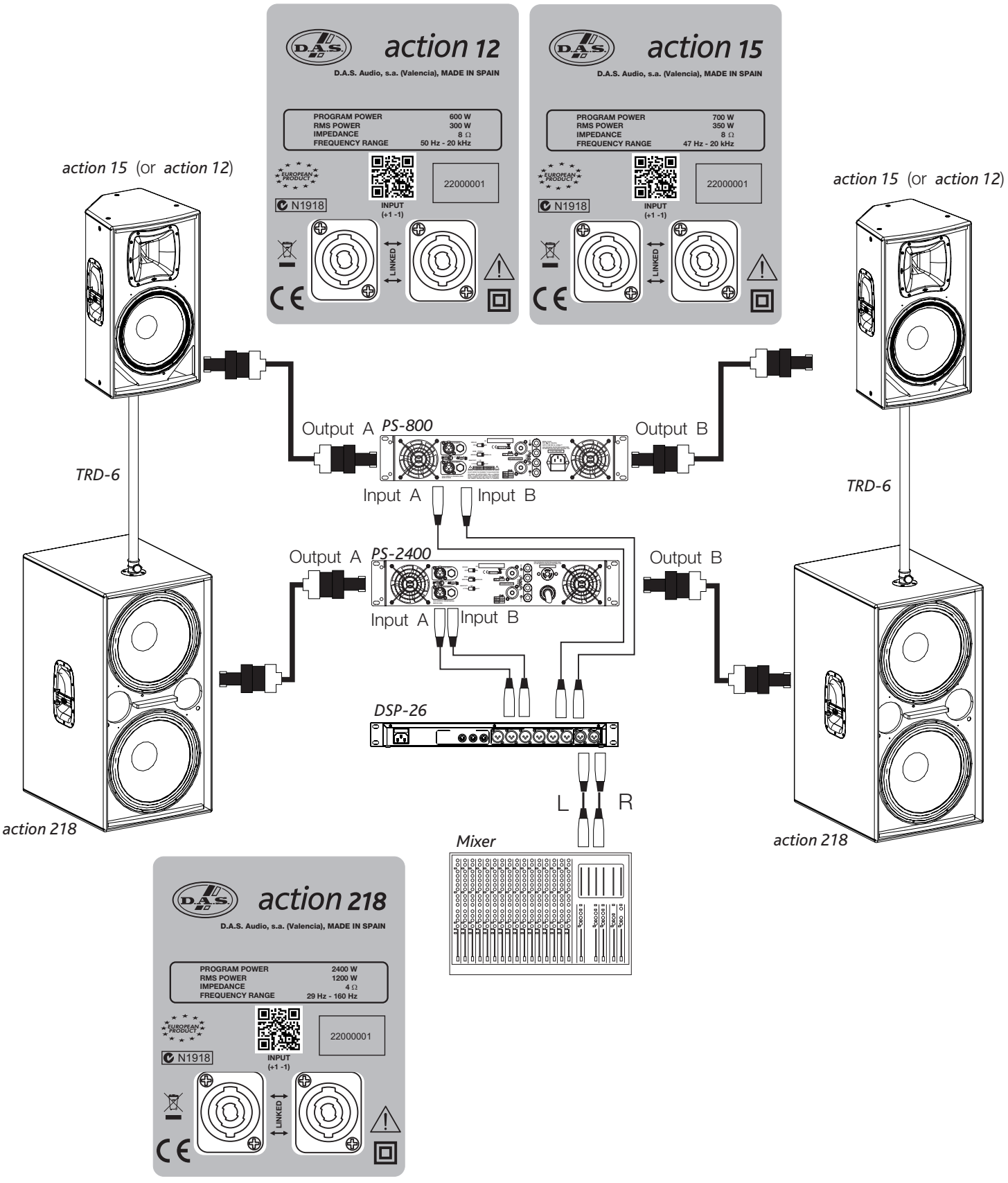
CONFIGURATIONS (cont'd)



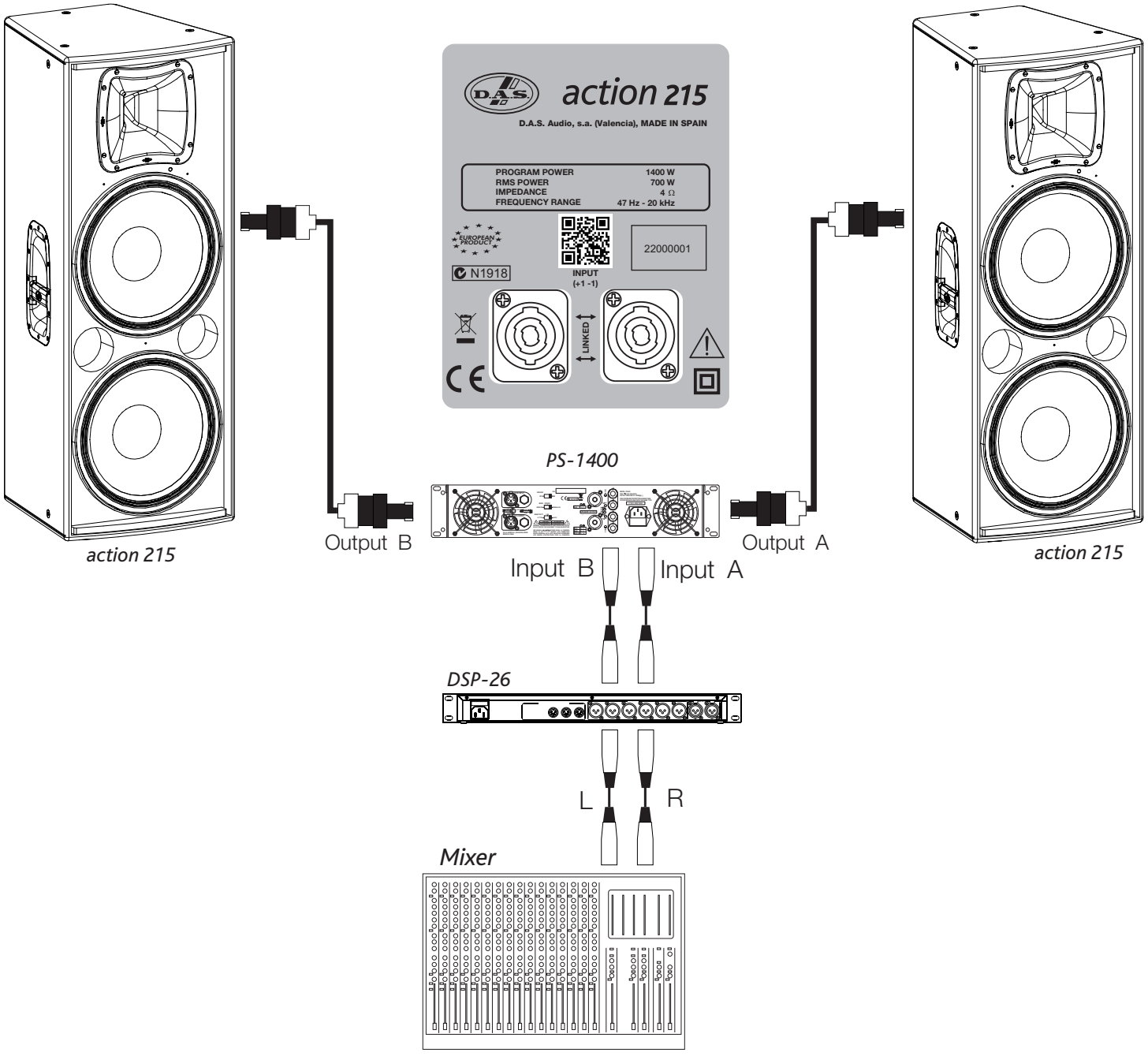
CONFIGURATIONS (cont'd)



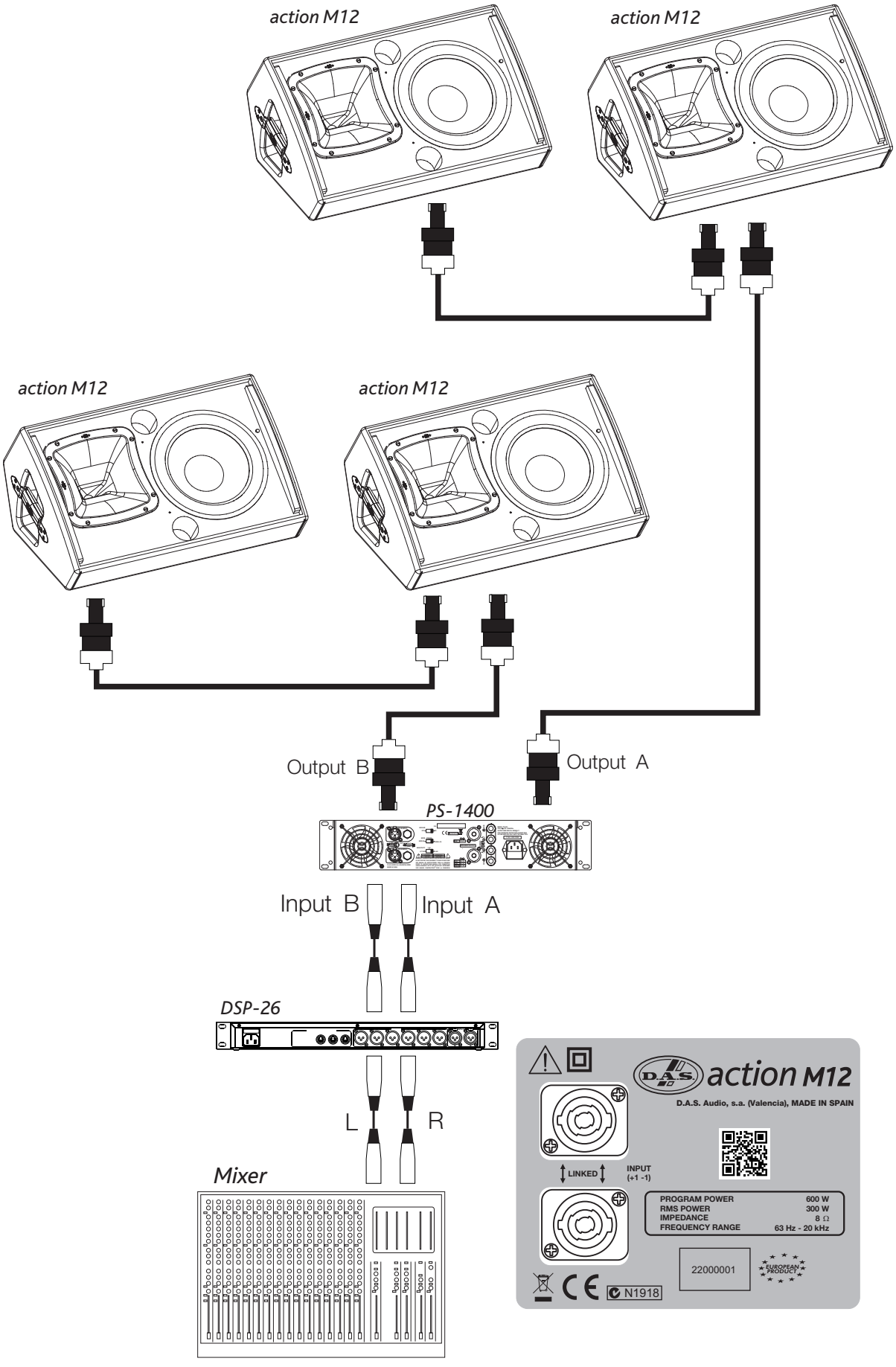
CONFIGURATIONS (cont'd)



CONFIGURATIONS (cont'd)



CONFIGURATIONS (cont'd)



RIGGING

Warnings

This manual contains needed information for flying D.A.S. Audio line array systems, description of the elements and safety precautions. To perform any operations related to flying the system, read the present document first, and act on the warnings and advice given. The goal is to allow the user to become familiar with the mechanical elements required to fly the acoustic system, as well as the safety measures to be taken during set-up and teardown.

Only experienced installers with adequate knowledge of the equipment and local safety regulations should fly speaker boxes. It is the user's responsibility to ensure that the systems to be flown (including flying accessories) comply with state and local regulations.

The working load limits in this manual are the results of tests by independent laboratories. It is the user's responsibility to stay within safe limits. It is the user's responsibility to follow and comply with safety factors, resistance values, periodical supervisions and warnings given in this manual. Product improvement by means of research and development is on going at D.A.S. Specifications are subject to change without notice.

To this date, there is no international standard regarding the flying of acoustic systems. However, it is common practice to apply 5:1 safety factors for enclosures and static elements. For slings and elements exposed to material fatigue due to friction and load variation the following ratios must be met; 5:1 for steel cable slings, 4:1 for steel chain slings and 7:1 polyester slings. Thus, an element with a breaking load limit of 1000 kg may be statically loaded with 200 kg (5:1 safety factor) and dynamically loaded with 142 kg (7:1 safety factor).

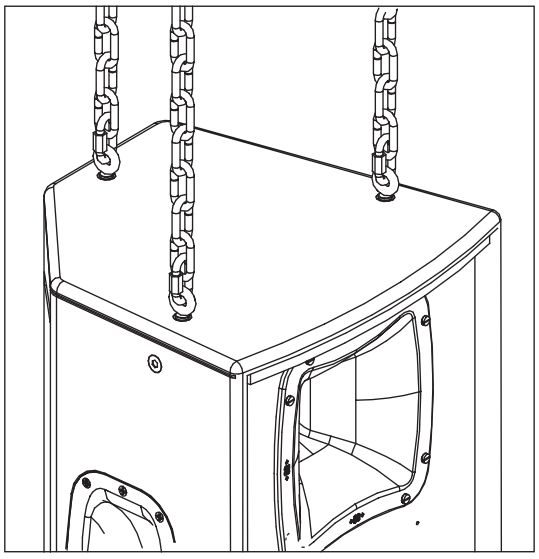
When flying a system, the working load must be lower than the resistance of each individual flying point in the enclosure, as well as each box. Hanging hardware should be regularly inspected and suspect units replaced if in doubt. This is important to avoid injury and absolutely no risks should be taken in this respect. It is highly recommended that you implement an inspection and maintenance program on flying elements, including reports to be filled out by the personnel that will carry out the inspections. Local regulations may exist that, in case of accident, may require you to present evidence of inspection reports and corrective actions after defects were found.

Absolutely no risks should be taken with regards to public safety. When flying enclosures from ceiling support structures, extreme care should be taken to assure the load bearing capabilities of the structures so that the installation is absolutely safe. Do not fly enclosures from unsafe structures. Consult a certified professional if needed. All flying accessories that are not supplied by D.A.S. Audio are the user's responsibility. Use at your own risk.

Introduction

Flyable ***action series*** models feature 6 internal steel angles, with 2 mounting threads each, so that 12 flying points are available (2 on each side, 3 on the top panel and 3 on the bottom panel and 2 on the rear panel). Eyebolt flying points are factory sealed with M10 screws, which are replaced with eyebolts on the flying points as required. Flying with eyebolts is very economical and safe, and is specially recommended for fixed installations where the boxes are permanently fixed.

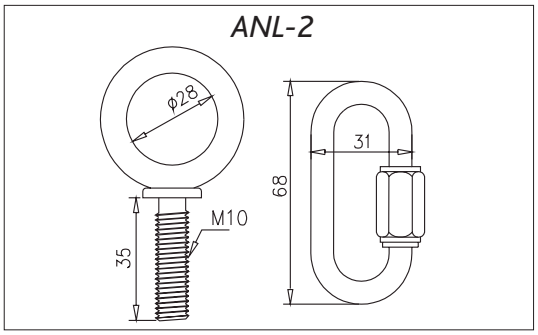
The illustration shows the internal metal hardware of an enclosure with eyebolt flying.



Flying with eyebolts

The Allen-head screws must be removed and replaced by M10 eyebolts on one side of the enclosure. Each rigging point has 200 kg (440 lb) working load limit. Then choose the slings or chains of required load resistance and length, bearing in mind that the length difference between the front and back slings or chains will determine the vertical orientation. Alternatively, the back bottom eyebolt points can be used to provide vertical orientation.

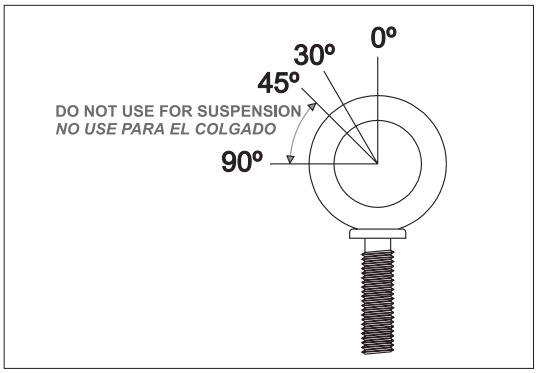
The ***ANL-2*** set is an optional set of three eyebolts and three carabiners. (Dimensions are in milimetres).



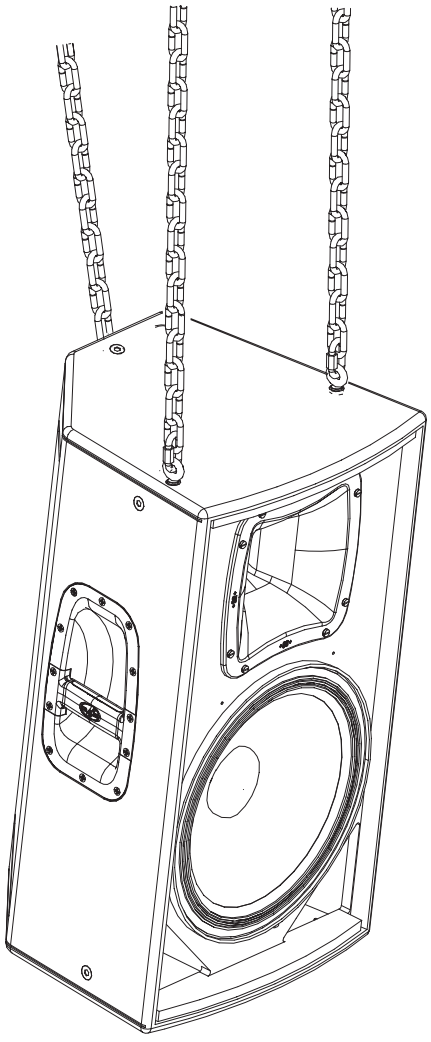
Each ***ANL-2*** eyebolt has a rated working load of 200 kg. (440 lb). Each ***ANL-2*** carabiner has a working load of 330 kg (726 lb). If using other hardware, make sure it is rated to handle the required load.

When using eyebolts it is important to bear in mind that the rated working load is only true for a load applied in the plane of the eye, and is significantly reduced for other angles. The drawing illustrates the concept. The table shows the variation of the working load as a function of the load angle. In the case of the ***ANL-2*** eyebolt, this means that the 200 kg working load becomes 60 kg at 45 degrees. Do not use eyebolt flying if the load angle is higher than 45 degrees.

	0 Degrees	30 Degrees	45 Degrees	More than 45 Degrees
% Working load	100%	65%	30%	25%



The following illustrations show different views on eyebolt flying for a single box. The length of the back cables or chains determines the vertical angle of the box.

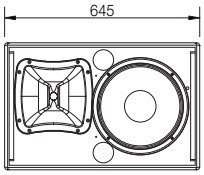


LINE DRAWINGS

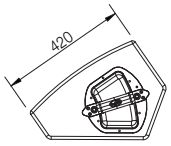
ALL DIMENSIONS IN MILIMETERS

action M12

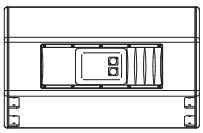
Bottom View



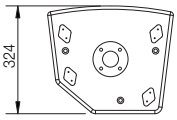
Front View



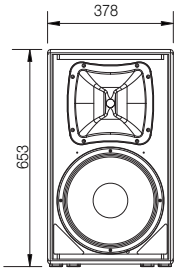
Right View


Rear View

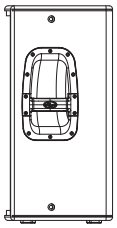
action 12

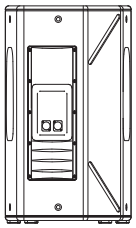


Bottom View

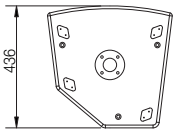


Front View

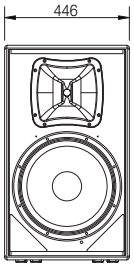

Right View


Rear View

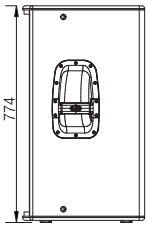
action 15



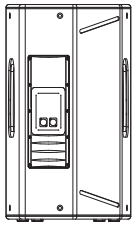
Bottom View



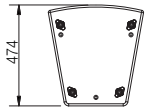
Front View



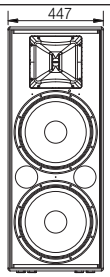
Right View


Rear View

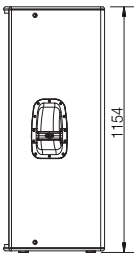
action 215



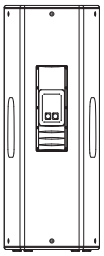
Bottom View



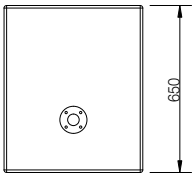
Front View



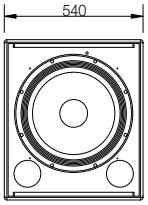
Right View


Rear View

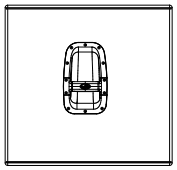
action 18

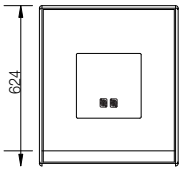


Top View



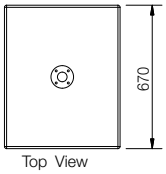
Front View


Right View

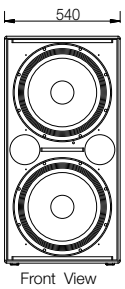


Rear View

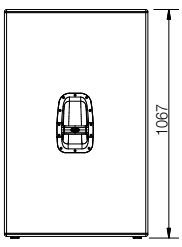
action 218



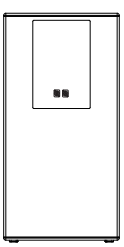
Top View



Front View



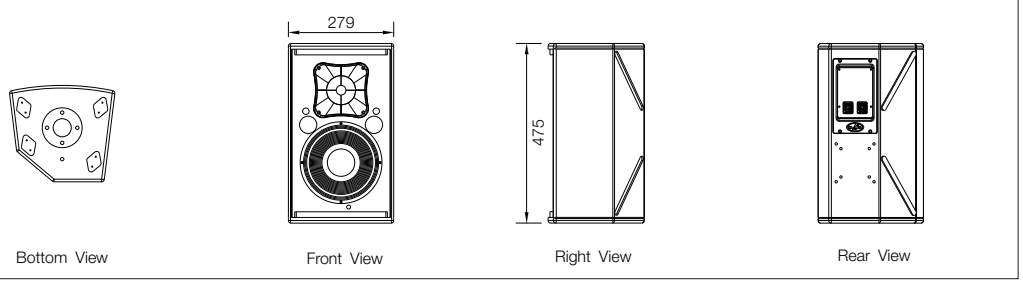
Right View


Rear View

LINE DRAWINGS (cont'd)

ALL DIMENSIONS IN MILIMETERS

action 8



SPECIFICATIONS

Model	*action 8*	*action M12*	*action 12*
Peak Power Handling (-10 dB)	600 W	1200 W	1200 W
RMS Power Handling (1)	150 W	300 W	300 W
Frequency Range (-10 dB)	60 Hz - 20kHz	63 Hz - 20kHz	50 Hz - 20kHz
HF Horn Coverage Angles(-6dB)	80º x 80º	80º x 50º	80º x 50º
On-axis Sensitivity 1 W / 1m	92 dB SPL	95 dB SPL	96 dB SPL
Rated Maximum Peak SPL (2)	120 dB	130 dB	131 dB
Nominal Impedance	8 ohms	8 ohms	8 ohms
Transducers/Replacement Parts	LF: *8B* / *8B*	LF: *12Mi* / *GM 12Mi*	LF: *12Mi* / *GM 12Mi*
	HF: *M-26* / *GM M-26*	HF: *M-34* / *GM M-34*	HF: *M-34* / *GM M-34*
Enclosure Material	Birch Plywood	Birch Plywood	Birch Plywood
Color/Finish	Black Paint	Black Paint	Black Paint
Connectors	2 x NL4 Speakon	2 x NL4 Speakon	2 x NL4 Speakon
Dimensions (H x W x D)	47.5 x 27.9 x 25.5 cm	42 x 64.5 x 31.6 cm	65.3 x 37.8 x 32.4 cm
	18.7 x 11 x 10 in	16.6 x 25.4 x 12.5 in	25.7 x 14.9 x 12.8 in
Weight	8.4 kg (18.5 lb)	17.5 kg (38.5 lb)	18.5 kg (40.7 lb)
Accessories	*AXW-1*, *TRD-2*, *TRD-6*	*TRD-2*, *TRD-6*	*ANL-2*, *TRD-2*, *TRD-6*

Model	*action 15*	*action 215*	*action 18*	*action 218*
Peak Power Handling (-10 dB)	1400 W	2800 W	2400 W	4800 W
RMS Power Handling (1)	350 W	700 W	600 W	1200 W
Frequency Range (-10 dB)	47 Hz - 20kHz	47 Hz - 20kHz	33 Hz - 160 Hz	29 Hz - 160 Hz
HF Horn Coverage Angles(-6dB)	80º x 50º	80º x 50º		
On-axis Sensitivity 1 W / 1m	96 dB SPL	99 dB SPL	96 dB SPL	99 dB SPL
Rated Maximum Peak SPL (2)	131 dB	134 dB	133 dB	139 dB
Nominal Impedance	8 ohms	4 ohms	8 ohms	4 ohms
Transducers/Replacement Parts	LF: 2 x *15Mi* / *GM 15Mi*	LF: 2 x *15Mi* / *GM 15Mi*	LF: *18H* / *GM 18G*	LF: 2 x *18H* / *GM 18G*
	HF: *M-34* / *GM M-34*	HF: *M-44* / *GM M-44*		
Enclosure Material	Birch Plywood	Birch Plywood	Birch Plywood	Birch Plywood
Color/Finish	Black Paint	Black Paint	Black Paint	Black Paint
Connectors	2 x NL4 Speakon	2 x NL4 Speakon	2 x NL4 Speakon	2 x NL4 Speakon
Dimensions (H x W x D)	77.4 x 44.6 x 43.6 cm	115.4 x 44.7 x 47.4 cm	62.4 x 54 x 65 cm	106.7 x 54 x 67 cm
	30.5 x 17.6 x 17.2 in	45.5 x 17.6 x 18.7 in	24.6 x 21.3 x 25.6 in	42 x 21.3 x 26.4 in
Weight	24.5 kg (53.9 lb)	38.5 kg (83.6 lb)	34.5 kg (75.9 lb)	61 kg (134.2 lb)
Accessories	*ANL-2*, *TRD-2*, *TRD-6*	*ANL-2*	*TRD-6*	*TRD-6*

(1) Based on a 2 hour test continuosly applying 6 dB crest factor pink noise (IEC shaped).

www.dasaudio.com

UM_ACT_02_EN

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